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USM RESEARCH ___ COLUMN FIREPROOFING RAIN EXPOSURE AND WEATHERING TEST

A full scale mock-up consisting of two columns a full story high (12 feet) connected by means of a spandrel plate was constructed of wood and covered with hardboard. The mock-up was constructed such that the ground level would be at the same level as the floor level in the actual building; see Figure 1.

The entire assembly was placed outdoors and sprayed with 1" of BLAZE-SHIELD Type D fiber on July 13, 1965; see Figures 2 and 3. Some 16 hours after completion of spraying the assembly was exposed to the erosive effect of impinging water jets, one directed at each column; see Figure 4. The flow from each jet was approximately 3 gallons per minute.

The water jets were kept on for 6 full hours. This amounted to approximately 21 inches of water falling on the assembly, which is much in excess of any rainstorm one would normally experience. This rainfall is greater than a six month rainfall in this area.

The water jets were turned off after 6 hours of exposure and photographs of the assembly were taken. The only place any fiber had come loose from the assembly was on the top portion of the lower spandrel plate; see Figures 5 and 6. This is a direct result of the water collecting on the lower edge of the upper spandrel plate and falling down 8 feet onto the lower spandrel top edge.

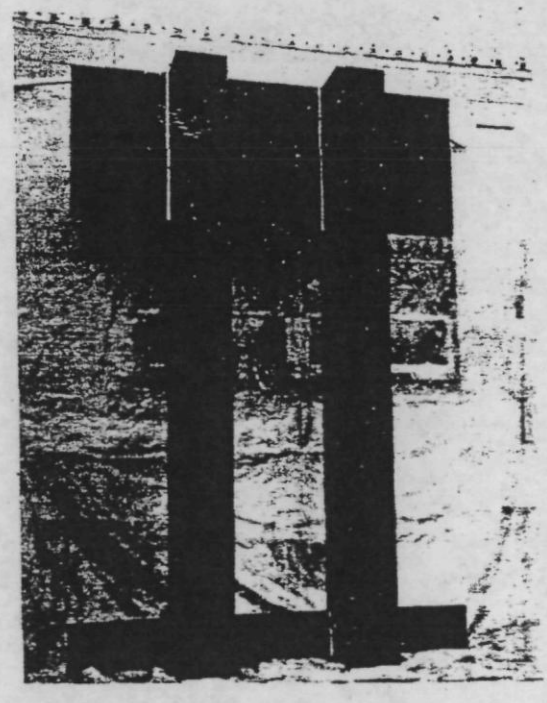

Fig. 1 - Assembly prior to spraying

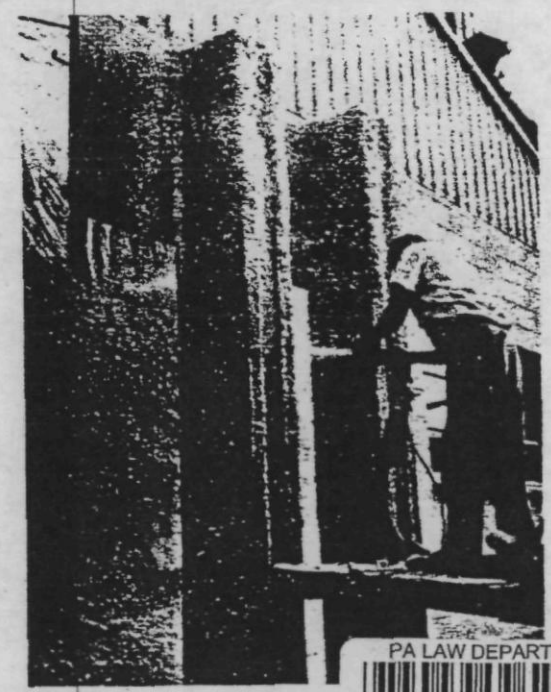

Fig. 2 - Application of BLAZE-SHIELD Type D sprayed fiber C-313

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Figure 3
Fireproofed Assembly

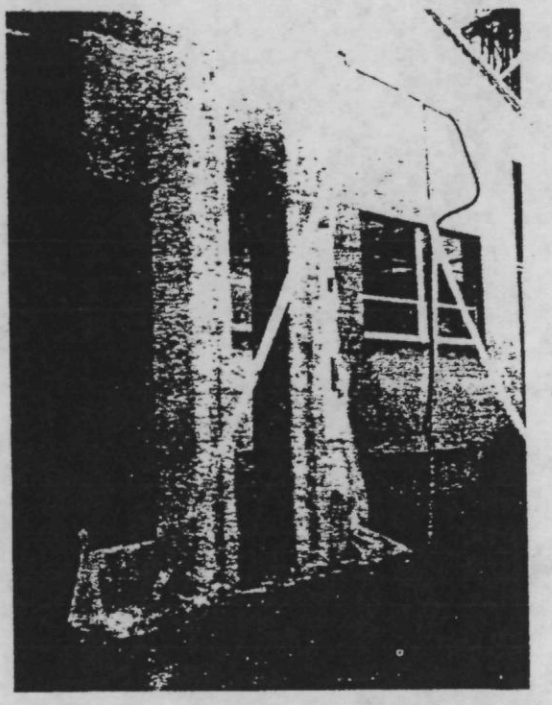

Figure 4
Impinging water jets directed at columns

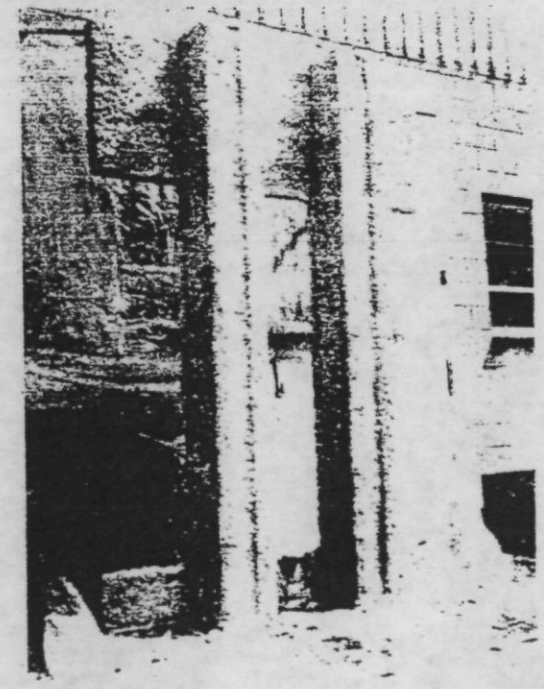

Figure 5
View after 6 hour water exposure
(picture taken from left side)

Figure 6
View after 6 hour water exposure
(picture taken from right side)

On July 13, 1966, exactly one year later, the assembly was inspected and photographs taken. During the winter approximately 48 inches of snow had fallen, while from January 1, 1966-18 inches of rain had accumulated. The fiber is in excellent condition, is firm to the touch and has not worn down under the year's exposure to the weather; see Figures 7 and 8.

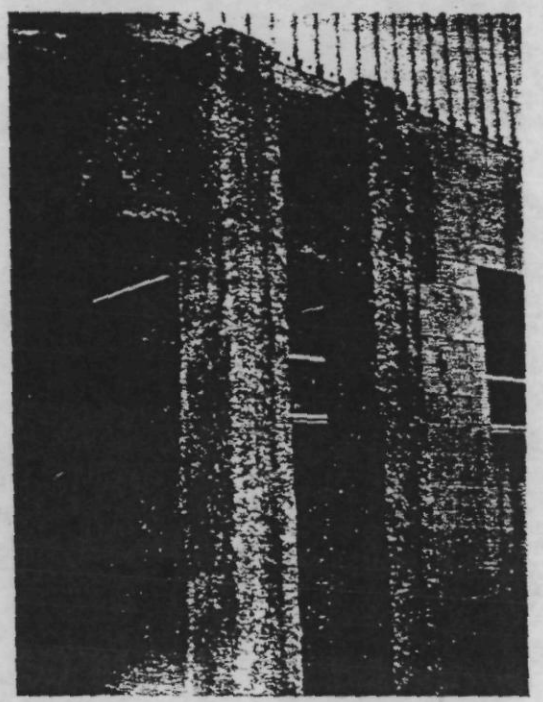

Figure 7
Assembly looking right

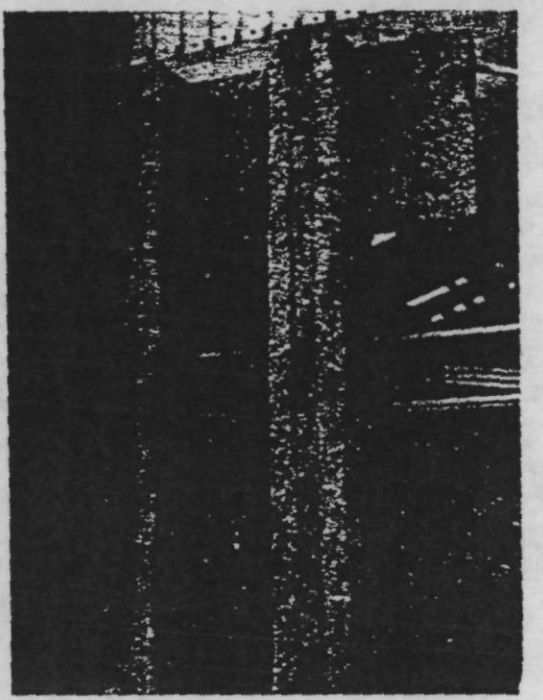

Figure 8
Assembly looking left

Assembly as of July 13, 1966

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